



## CYSTIC ANCIENT SCHWANNOMA OF CONUS MEDULLARIS - A CASE REPORT

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**ABSTRACT**

Cystic spinal or ancient schwannoma is a rare form of intradural tumour especially in the conus medullaris region. Due to its indolent behaviour and benign course, the diagnosis of schwannoma is always a challenge and the imaging findings can be misleading. We report a case presented with low back ache with bilateral lower limb radicular pain diagnosed with cystic ancient schwannoma underwent complete excision without any complications. We concluded that ancient schwannoma of the conus medullaris is a rare benign tumour that can present with minimal non-specific neurological symptom that lead to misdiagnosis. Radical tumour excision is safe with an excellent outcome.

**KEYWORDS :** Cystic ancient schwannoma, radicular pain, conus medullaris

**INTRODUCTION**

Schwannomas are common benign tumors originating from the peripheral nerve sheath, capable of developing anywhere in the body, with the head and neck being the most frequent locations, followed by the extremities. Occasionally, some of these tumors can grow to unusually large sizes and exhibit a high incidence of degenerative changes. This variant of schwannoma, known as "ancient schwannoma," was first identified by Ackerman and Taylor in 1951. They recognized the necessity for a distinct term to describe a subset of larger schwannomas showing microscopic evidence indicative of prolonged growth and coined the term "ancient" for such tumors.(1) These rare tumors often present over a long duration, exhibit significant degenerative alterations, and frequently display nuclear atypia. Ancient schwannomas typically grow slowly and attain considerable size, affecting predominantly elderly individuals, particularly those in their fifth and sixth decades.(2)(3)

**CASE REPORT**

A 69 years old female presented with low back ache with bilateral radicular lower limb pain and numbness, gradually progressing in nature. On examination lower limb power 4/5 on both side with intact bowel and bladder functions. patient underwent MRI spine with contrast showed a well-circumscribed ovoid cystic mass lesion measuring approximately 2.7x1.5x1.4cm is noted in the spinal canal at D12 vertebral level. Enhancing solid area measuring approximately 8x3mm is noted in right postero-lateral wall of the cystic lesion. The lesion appears to the intradural extramedullary with the conus medullaris seen compressed and displaced towards left anterior aspect - likely cystic schwannoma. Case was discussed in tumor board and planned for Laminectomy and excision under intra operative neuro monitoring (IONM). Patient underwent complete excision of the tumour without any complications and deficits. post operatively patient completely recovered of symptoms. Histopathological examination showed encapsulated partly cystic lesion with solid areas showed presence of fascicles spindle cells in predominantly hypercellular areas with focal hypocellular areas. These spindle cells are marrow, elongated with wavy tapered ends interspersed with collagen fibers. Focal degenerative nuclear atypia and congestion noted. Cytoplasm is ill defined with dense nuclear chromatin. There is no evidence of mitotic activity/necrosis in the sections studied. Immunohistochemistry S100 - clone : EP32 and SOX - 10 - clone - EP24/EP67 were positive, features are consistent with Cystic Ancient schwannoma. Patient was discharged in a

stable condition.

**DISCUSSION**

Schwannoma is a benign tumour of the peripheral nervous system, arising from Schwann cells. Schwannoma can occur virtually in any body location where peripheral or cranial nerves are present, and they correspond to 8% of primary intracranial and 29% of primary spinal tumors.(4) The lumbar region is one of the most common sites for occurrence of spinal schwannoma, as demonstrated by Conti et al., who studied the distribution of spinal schwannomas and reported that 48% lie within the lumbar spine.(5) Schwannoma is a slow growing tumour. It usually encapsulated, and rarely undergone malignant transformation. Schwannoma arises from the Schwann cells of the nerve sheath, and they comprise the most common tumour type affecting the peripheral nerves. The most common location of spinal schwannoma is around peripheral nerves in the extradural space. Intracranial schwannoma have also been observed, and it usually arises from the facial, trigeminal, or vestibular nerves.(6) Women and men are equally affected by schwannoma and there is a predilection for occurrence in between the fourth to sixth decades of life. Benign schwannoma can occasionally display degenerative changes that are encompassed by cyst formation, calcifications, hemorrhage and hyalinization. When multiple degenerative changes are encountered, schwannoma fits into the category of "ancient schwannoma", which is extremely benign in course, rarely demanding any form of treatment'. Cystic degenerations have been observed in the orbital region, in the olfactory groove, in the tentorial hiatus and posterior cavernous sinus, in the pre-sacral region, within the pancreas, in the maxillary sinus, within the spinal cord, and intraventricular. Cystic schwannoma have also been observed surrounding cranial nerves such as the vestibular nerve, the vagus nerve and within the jugular foramens.(7) Cystic schwannoma occurring in the conus medullaris region is rare. Only seven cases of cystic lumbar nerve sheath tumours have been described in the literature pointing out its resonance magnetic imaging presentation. Ancient schwannoma is a benign tumour with a slow growth rate and the symptoms are very few and minimal. Because of that, the diagnosis of ancient schwannoma is always a challenge to the neurosurgeon and neurologist. Ancient schwannoma or cystic spinal schwannoma is possibly behaves in a similar fashion to solid schwannoma. Therefore, the treatment of an ancient schwannoma is similar to other spinal schwannomas which involve radical surgical excision of the tumour and decompression of spinal nerves. In

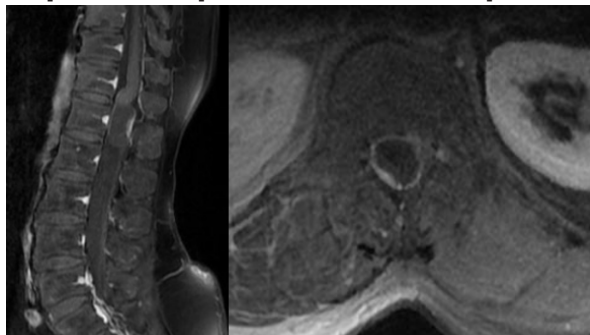
conclusion, ancient schwannoma of the conus medullaris region is a rare benign tumour that grows very slowly. Clinical symptoms are usually due to the compression of lumbar spinal nerve roots structures. Wide CSF space and absent of spinal cord below the L3 level are also factors for its minimal sign even though the tumour size is big. The treatment for ancient schwannoma of the conus medullaris region is radical excision of the lesion and the outcome is always excellent with the availability of modern technology.



MRI spine sagittal (a) T1(b)T2(c) STIR images showing well-circumscribed ovoid cystic mass lesion



MRI spine axial T2 image showing the lesion appears to be intradural extramedullary with the conus medullaris seen compressed and displaced towards left anterior aspect



MRI spine with contrast (a) sagittal (b) axial images showing enhancing solid area measuring approximately 8x3mm is noted in right postero-lateral wall of the cystic lesion



Specimen - Cystic ancient schwannoma

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